

WATER LINES

NEWS FROM THE WATER RESOURCES DIVISION
OF THE MONTANA DEPARTMENT OF NATURAL RESOURCES AND CONSERVATION

WATER NEWS

LEGISLATURE CONSIDERS WATER ISSUES

By Cindy Forgey

THE 57TH SESSION OF THE MONTANA LEGISLATURE BEGAN WEDNESDAY, JANUARY 3, 2001, AND CAME TO A CLOSE ON APRIL 21, 2001. FOLLOWING ARE SOME OF THE BILLS RELATING TO WATER ISSUES THAT THE LEGISLATORS PASSED THIS SESSION.

HB 33 - An act authorizing a short-term lease of a water right for road construction or dust abatement without approval by the Department of Natural Resources and Conservation; amending Sections 85-2-122, 85-2-402, 85-2-407, and 85-2-419, MCA; and providing an immediate effective date. Governor Martz has signed this bill.

HB 46 - An act increasing the limit for construction contracts without formal competitive bids for state-owned water projects to \$50,000; exempting the Department of Natural Resources and Conservation from specific solicitation and selection procedures for contracts up to \$15,000 for goods, nonconstruction services, or professional services related to state-owned water projects; amending Section 85-1-219, MCA; and providing an immediate effective date. Passed by the legislature. Governor Martz has

signed this bill.

HB 114 - An act generally revising the Montana water use laws; defining "developed spring"; eliminating the requirement to make water right application forms, notice of completion forms, and well log forms available at the offices of county clerks and recorder; clarifying that notification of intent to appropriate ground water from ground water development works does not create an easement; amending Sections 85-2-102, 85-2-302, 85-2-306, and 85-2-516, MCA; and providing an immediate effective date. Governor Martz has signed this bill.

HB 129 - An act exempting certain replacement wells from certain procedures and criteria applicable to changes in water rights; amending Section 85-2-402, MCA; and providing an immediate effective date. Governor Martz has signed this bill.

HB 340 - An act revising the provisions governing the contents of local subdivision regulations; requiring the subdivider to reserve water rights or establish a landowner's



water use agreement for certain subdivisions; establishing minimum width requirements for ditch easements in subdivisions; prohibiting placement of structures or planting of vegetation within ditch easements without permission; requiring the subdivider to show utility easements of sufficient width to provide utility services on the final plat; and amending section 76-3-504, MCA. Governor Martz has signed this bill.

HB 397 - An act establishing the Clark Fork River Basin Task Force; requiring the task force to develop a water management plan for the basin; requiring the task force to submit interim reports to the governor and the legislature; requiring the Department of Natural Resources and Conservation to provide a written notice when the department issues water use

(Continued on back page)

DEPARTMENT OF NATURAL RESOURCES AND CONSERVATION — WATER RESOURCES DIVISION
"To provide the most benefit, through the best use, of the state's water resources for the people of Montana."

ARTHUR R. "BUD" CLINCH
Director, DNRC 406-444-2074
JACK STULTS
Administrator, Water Resources Division 406-444-6605

CURT MARTIN
Chief, Water Rights Bureau 406-444-6631
GLEN McDONALD
Chief, State Water Projects Bureau 406-444-6653
RICH MOY
Chief, Water Management Bureau 406-444-6633

LAURENCE SIROKY
Chief, Water Operations Bureau 406-444-6816
CINDY FORGEY
Editor, Water Lines 406-444-6603
DEVRI ROUBIDOUX
Graphic Design Specialist 406-444-6637

Persons with disabilities who need an alternative, accessible format of this document should contact:
DNRC, 48 North Last Chance Gulch, P.O. Box 201601, Helena, MT 59620-1601 • Phone: 406-444-6601/Fax: 406-444-0533/TDD: 406-444-6873
<http://www.dnrc.state.mt.us/wrd/home.htm>

THE NORTH FORK BLACKFOOT RIVER STUDY

By Mike Roberts

A study conducted by the Montana Department of Natural Resources and Conservation (DNRC) and the U.S. Bureau of Reclamation (USBR), with assistance from the U.S. Geological Survey (USGS), assesses the current hydrology of the North Fork Blackfoot River in its lower reaches. The

North Fork Blackfoot River contributes about one-third of the annual discharge of the Blackfoot River while occupying approximately 15 percent of the Blackfoot River watershed area. This contribution and the demand for this water make it imperative to have an understanding of the hydrology of the area and how

it interacts with multiple land uses. Reaches along the lower river and some of its tributaries experience seasonal water shortages that may impair native trout habitat for westslope cutthroat and bull trout and affect irrigators' ability to use water. The study characterizes the general hydrology of the area and focuses on natural and anthropogenic factors that may impact surface water and groundwater interactions and ultimately instream flows of the North Fork Blackfoot River and its tributaries Rock Creek, Kleinschmidt Creek, and Salmon Creek.

The headwaters of the North

Fork Blackfoot River lie in the Scapegoat Wilderness on the Lolo National Forest. The river flows south out of the wilderness area, where it immediately dissects a glacial outwash plain for several miles before entering a confined valley section above its confluence with the Blackfoot River. It is on this outwash plain,



North Fork Blackfoot River - Photo by Mike Roberts

known as Kleinschmidt Flat, that the study was conducted, and it is also where most off-stream water use, specifically irrigation, occurs in the basin.

With the cooperation and support of landowners, the agencies characterized the hydrology on Kleinschmidt Flat through the monitoring of area inflows and outflows, surface water in all streams and diversions, and groundwater levels at many of the private residences. By taking flow measurements at several points along streams and ditches, the agencies identified specific reaches that lose or gain flow as a function of groundwater interaction. These measure-

ments or "synoptic" runs were conducted periodically throughout the irrigation seasons during the life of the project, 1997 to 2000.

Study results indicate what area residents have long suspected. The North Fork Blackfoot River, Rock Creek, Salmon Creek, and most of the irrigation ditches lose large amounts of surface-flowing water into the permeable soil in the upper three-quarters of Kleinschmidt Flat. However, much of that water returns to Rock Creek, Kleinschmidt Creek, and the North Fork Blackfoot River in the lower one-quarter of Kleinschmidt Flat. The considerable amount of return flow observed

results primarily from inefficient irrigation delivery systems and instream flow losses due to seepage. Improvements to some of these delivery systems may lead to localized water savings and, eventually, the enhancement of instream flows.

It is anticipated that this study will provide a quantifiable platform on which landowners and other stakeholders can base water management decisions. The key is to maintain or increase instream flows in critical reaches without diminishing presently irrigated lands.

The study is presently in review and will be available from DNRC in the spring of 2001. 🌱

PARK LAKE DAM CONSIDERED FOR REPAIR

By Tim Kuehn

The Department of Natural Resources and Conservation (DNRC), Department of Fish, Wildlife and Parks (DFWP), and the U.S. Forest Service (USFS) have jointly established a tentative agenda to repair Park Lake Dam. Rob Kingery, a DNRC engineer, has been coordinating efforts with the agencies in an attempt to arrange geotechnical analysis and repair of the aging structure.

Park Lake is located in the Boulder Mountains approximately 12 miles west of Clancy in Jefferson County. The dam was originally constructed in 1872 by the Park Ditch Co. to provide water for placer mining in the Helena area. The structure is an earthen embankment that impounds 225 acre-feet of water and is classified as high hazard due to the potential loss of life should the dam breach. Several problems at the site need to be addressed. Fill material around the spillway culvert has piped from the area and allowed the

culvert to settle. The downstream embankment appears to be unstable, and the upstream embankment has been eroded from wave action. Additionally, there is evidence that an abandoned outlet pipe may be buried in the embankment. Detailed design and construction information about the dam is not available.

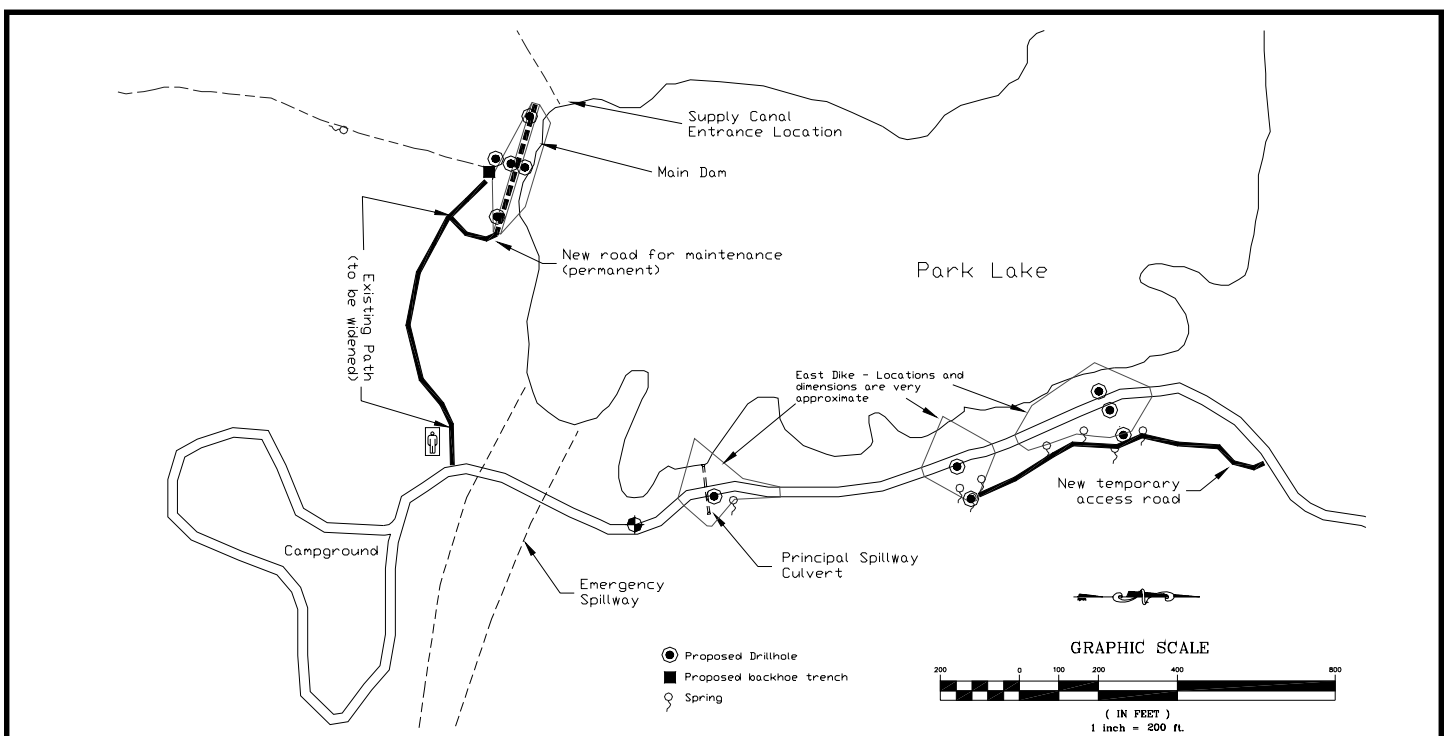
The reservoir is owned by DFWP and entirely surrounded by the Helena National Forest. A public campground located near the reservoir is owned and operated by the U.S. Forest Service. The popular recreational site is stocked with cutthroat trout annually by DFWP. Arctic grayling were planted several times between 1963 and 1970, and now the grayling fishery maintains itself by natural reproduction. The DFWP and USFS have entered into an agreement to exchange certain parcels of property to improve management and administration activities. Upon completion of

the land exchange and repair of the dam, Park Lake will be owned by USFS.

The plan for repairing the structure consists of two phases. The first phase includes bathymetric and topographic surveys, drilling to obtain geotechnical data, and the development of a preferred repair work alternative. The second phase includes the final project design, development of construction bid documents, and construction administration.

Jim Domino, DNRC environmental specialist, is preparing the necessary permit applications and environmental documents in coordination with DFWP and USFS. It will be necessary to prepare an environmental assessment for each phase of the proposed work. The EAs will be made available to the public for review and comment.

The 57th Montana Legislature is being asked for \$175,000 to fund the project.



DRY PRAIRIE RURAL WATER

(Taken from *Dry Prairie Rural Water* brochure)

In 1992 the Fort Peck Tribes realized poor quality water on the reservation was a concern. Work began on a water supply system to bring clean water to the reservation.

As the plan progressed, it became evident that all of northeastern Montana was suffering from poor water contaminated with minerals, rust, odor and high nitrates. A regional water system was suggested, combining the tribal plan with an off reservation system, thus consolidating systems and cutting construction costs.

The off reservation communities organized and formed the Dry Prairie Rural Water. By working together, high quality Missouri River water will be treated to become compliant with the national safe drinking water standards, and brought to existing public water systems, rural households, and livestock watering sites across

northeastern Montana.

Water rights from the Fort Peck Tribes will be allocated for the projects. There is an average of 7.5 million acre-feet flowing past northeastern Montana in the Missouri River every year. Of that water, the Fort Peck Tribes own the rights to one million acre-feet. The regional water system will use between 4,000 and 5,000 acre-feet annually. The rights will be disbursed at no cost for the life of the system.

The water intake will be located near Poplar, Montana, with the treatment plant close by. After the water has been treated, it will be pumped through approximately 3,500 miles of pipeline with 52 pumping stations. The system will serve approximately 24,000 people.

Dry Prairie Rural Water will own and operate the system off the reservation, and the Fort Peck Tribes will operate the system on the reservation. The common facilities such as the

intake and treatment plant will need to be governed by a common board. The system on the reservation is owned by the federal government and held in trust for the Fort Peck Tribes.

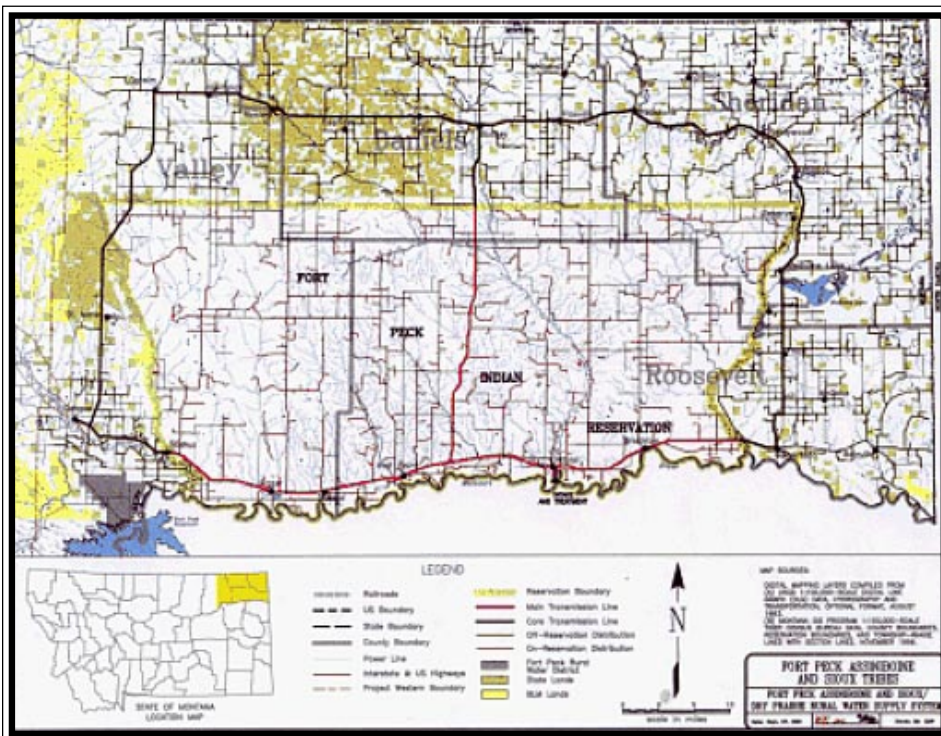
Construction cost of the system is estimated at \$179 million: \$103 million for the Fort Peck Reservation and \$79 million for the Dry Prairie Rural Water system. Legislation states the reservation system will be 100% federally funded with the Dry Prairie Rural Water system 76% federally funded. State grants, loans, user fees and legislation will provide the remaining 24% cost of the construction for the Dry Prairie Rural Water system.

Annual cost of operation and maintenance of the system is estimated at \$2.86 million. Operational funds for the Dry Prairie Rural Water system will be included in the monthly water bill, estimated at \$39.80 for the average residential user.

Estimates are based upon operation, maintenance, and debt service of comparable systems.

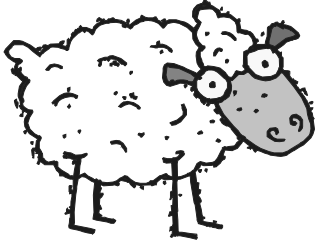
Rural users are urged to join the system before the final design is completed. Users who are designed into the system will enjoy a 76% federal and 12% state cost share of construction. There is a \$100 good intent fee required to sign up and be included in the planning. A hook-up fee of approximately \$500 will be needed when the construction is in your area.

Users who wait until construction begins will pay a full cost of trenching from the main pipeline to their location and be responsible for some debt service. This cost cannot be



(Continued on back page)

Spring 2001 – Lamb or Lion?



By Jesse Aber

As March 2001 leaves us with a big roar, is the state finally getting some significant snow accumulation for our mountains? After all, in 1996 and 1997 snow water content climbed through the second week of May, well past the 30-year average peak, which occurs about April 12 each year. For much of the winter, there has been no more snow at the ski resorts than in town. A colder than average winter preserved what snow we did get for months. Will April come through for us and nudge the faltering mountain snowpack toward and beyond the 70 percent of average mark?

Everyone seems to agree that the drought continues, relatively unabated. The Drought Advisory Committee decided that there is no need to make a new case for the presence of drought conditions across the state in its March 21 meeting in Helena. For the most part, aquifers, soil moisture, reservoirs, streamflow, and precipitation continue to languish with relatively little improvement. The committee agreed to send a letter to all 56 Montana county commissions announcing a Drought Alert. The Alert calls for encouragement of local drought planning. The Drought 2001 Internet web site contains the drought plan and responses suggested for the Drought Alert status.

The USDA Natural Resources Conservation Service (NRCS)

Snow Survey for April 9, 2001 indicates that the snow water content of the state's mountain snowpack stands at about 63 percent of average west of the Continental Divide and 69 percent east of the divide. The March 1, 2001 NRCS Surface Water Supply Index ranked 27 of 52 river basins in the Extremely Dry category. The SWSI maps, as well as a myriad of other drought-related data, are located on the Drought 2001 web site.

March turned out to be another poor precipitation month for low elevation locations across Montana with the seven climate divisions ranging from a low of 13 percent for the northeast division to a high of 101 percent for the southeast division. West of the Continental Divide, March precipitation was 73 percent of normal, the north-central 39 percent, the central 48 percent, the southwest 47 percent, and the south-central 65 percent of normal. For the Water Year, October 1, 2000 through March 31, 2001, the southeast division led the state with 101 percent of normal and the western and south-central divisions trail the rest of the state with 69 percent of normal precipitation. The southwest, central, northeast, and southeast divisions were within the normal range of 90 to 110 percent precipitation for the Water Year, thus far.

March went out and April came in like lions. The April Fools storm put over three feet of snow in areas of the St. Mary River Basin and up to an inch of moisture in parts of the Golden Triangle wheat-growing region. Snow water content figures responded by gaining, on

average, about six percent east and four percent west of the divide for the week. And frequent mountain snow flurries added still more percentage points during the week of April 8.

If this trend continues, we could see a number of river basins breaking the 70 percent level that has been so elusive all winter. As of April 9, the Headwaters Missouri Mainstem basin leads the state with 78 percent of average snow water content in the mountains. The Smith, Judith, Musselshell and Tongue River basins follow with 76 and 75 percent, respectively. A cool and wet April and May could cause a protracted period of runoff to soften the blow of the low water content of the mountain snowpack. And with above average precipitation in April, May, and June, we could see range conditions and soil moisture recover and streamflow and reservoir storage improve. Of course, we are not planning on the best-case scenario, or for that matter, even average moisture. Forecasting the wildfire season is always a wild card this time of year and precipitation in July, August, and September can make or break a fire season or drought. So, here at the threshold of another Montana spring and summer we find ourselves in a precarious position once again. Hopefully, April's Lion will roar its way well into the month of May.



EARTHQUAKES AND DAM SAFETY

By Laurence Siroky

Although we did not feel the ground moving during the Seattle earthquake on February 28, 2001, we did feel the quake with respect to evaluation of our own readiness. The DNRC is responsible for ensuring that owners of high hazard dams are ready and know the appropriate action to take if an earthquake occurs near the dam.

High hazard dams are dams that have a capacity of 50 acre-feet or more and would cause loss of life downstream if they fail. The term "high hazard" is not a description of the physical condition of the dam itself but rather of the hazard potential downstream. Each dam owner is required to have, and now has an emergency action plan for both an imminent failure and a failure of the dam. Failure would, of course cause, fatalities and considerable downstream damage, as well as the loss of the facility that provides water for drinking or irrigation. However, warning times of more than an hour and half historically have resulted in minimal loss of life from a dam failure. So, implementing the emergency action plan is an important step for early warning.

One of the programs we have implemented recently is to work with dam owners, disaster officials, and others to ensure that the emergency action plans are up-to-date and usable. The plan lists the appropriate notification sequence, emergency phone numbers, and actions required of the dam owner and others to implement an emergency action effectively. We are actively conducting practice sessions, called tabletop exercises, with dam owners and other responsible

officials. The tabletop exercise usually results in improvements to the plan as well as familiarization with the plan. A tabletop exercise is done about once every three to four years. Additionally, the department is auditing about one-third of the 90 emergency action plans for the high hazard dams each year to ensure that phone numbers and official contacts have been updated.

One important consideration is to determine which dam owners need to be notified when the shaking has been strong enough to warrant an inspection of the dam structure or, in the most severe case, an evacuation. We have just completed an evaluation of the latest scientific information on attenuation of earthquakes, that is, how much the shaking caused by an earthquake dissipates with distance from the epicenter. The attenuation information is then used to search our list of dams, and a list is developed of dams located where the degree of shaking may be of concern to the structural integrity. Based on that list, dam

owners are notified and given a recommended course of action.

Dam owners are required by law to build and rehabilitate high hazard dams utilizing the latest design and materials to minimize the risk of dam failure during the design earthquake. To most dam owners, complying with these standards seems to be awfully expensive, in anticipation of a rare event. The Seattle quake is a reminder that the design earthquakes do occur. Although the depth at which the Seattle earthquake occurred minimized the damage that resulted, adequate construction and design of the buildings and infrastructure played a huge part in minimizing damage.

Montana is seismically active - not quite as active as areas in California, but similar to Washington. Therefore, adequate construction of dams and readiness are important to all who live below a dam or depend on the water storage. The issue is not whether an earthquake will occur, but when it will occur and whether we are READY. 🌧️

MONTANA WATER TRIVIA

What is the one place in North America where falling water eventually flows into three oceans?

ALAN MIKKELSEN - A NEW FACE IN WASHINGTON



Alan Mikkelsen

By Cindy Forgey

Alan Mikkelsen's first memory of water was of riding on his father's shoulders, water-skiing across a local irrigation reservoir. He says that was followed by memories of playing in irrigation ditches and canals, which were eventually replaced by gravity-pressurized sprinkler lines on his family farm/ranch near St. Ignatius.

Alan is a fourth-generation Montana farmer/rancher; he was born and raised near St. Ignatius. He and his wife Lynette, a math and chemistry teacher in St. Ignatius High School, raised their three children there. In 1998 they sold their ranch and moved onto a smaller piece of property next to the old ranch, where they spend their time gardening and where Alan enjoys working in his woodshop.

Alan's professional activity in water issues began when he was asked to run for a vacancy on his local irrigation district board of commissioners. From there he went on to serve as executive

director of the Flathead Joint Board of Control in western Montana from 1986 to 1995. At the same time he began to work with water users across Montana and the U.S. in several capacities.

Alan has served on the boards of the Montana and National Water Resources Associations, and most recently as the treasurer of the National Water Resources Association. He has also been active in dispute resolution and mediation of natural resource disputes and represented a variety of water organizations in Washington, D.C. His home office is filled with awards from state, regional, and national water organizations for the service he has rendered to water users over the past 15 years.

Alan also ran a natural-resource-based flying service from St. Ignatius, doing work from Barrow, Alaska, to Belize in Central America. In 1993, he was named the International Conservation Pilot of the Year.

In April 2000, he was asked to take over Dennis Rehberg's campaign for the U.S. House of Representatives. After a successful election, Alan was asked to serve as Congressman Rehberg's Chief of Staff, which he is currently doing. Alan says the best analogy to describe his current position is, "It's like trying to drink out of a fire hydrant!"

Alan sees the most challenging water quality issues for Montana as TMDLs and nonpoint source pollution, especially as these issues relate to agriculture and forest management practices. Congress will also be involved in these issues, and Congressman

Rehberg's position as vice-chairman of the Water and Environment Subcommittee means that we will be intimately involved and will be able to make sure a Montana perspective is developed.

The most challenging water quantity problem is just plain lack of snowpack. Montana is facing a year of water shortages for fish, farmers, and hydroelectric plants. The Drought Advisory Task Force, chaired by Lt. Governor Karl Ohs, is doing everything it can to mitigate this problem. Alan hopes that we can keep talking to each other as Montanans and continue a civil discourse for the ultimate good of the resource.

Alan thinks that the continuing drought will be the most challenging issue of the next ten years. After that, the implementation of Indian right water settlements and the financing and development of rural drinking water delivery systems will definitely be the major issues in Montana. ●



**WATER
LINES**
On-Line

Be sure and visit our Web Site at <http://www.dnrc.state.mt.us/wrd/home.htm> for information and data regarding water and water-related issues. You'll also find a link to stay updated on the 2001 drought conditions. Our Web Site is continually being updated so check it out.

(Dry Prairie continued from page 4)

estimated, however, it may be cost prohibitive.

All communities in north-eastern Montana have made a commitment to bring clean water to their residents. This is your opportunity to show your support.

The Dry Prairie Rural Water System originated from a steering committee in 1997 to an association of conservation districts formed to govern the off-reservation water system in 1998. The association board consists of two members from each county who conduct the business of the system. Any of these board members may be contacted for more information.

BOARD MEMBERS

Valley County

Dennis Hanrud 725-3374
Allen Bunk 746-3483

Sheridan County

Jon Bolstad 963-2325
Gordon Kompen 286-5684

Daniels County

Charlie Cahill 783-5510
Jim Tande 783-5211

Roosevelt County

Miles Knudson 787-5252
Rick Knick 787-5250

Dry Prairie Rural Water

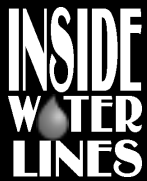
Clint Jacobs, Coordinator
P.O. Box 517
Culbertson, MT 59218
406-787-5382
E-mail: dprw@nemontel.net
Website: www.nemontel.net/~dprw

(Legislature continued from page 1)

permits in the Clark Fork River basin; specifying the contents of the written notice; and providing an immediate effective date and a termination date. Governor Martz has signed this bill.

HB 573 - a bill for an act entitled: "An act authorizing the board of oil and gas conservation to permit certain coal bed methane gas wells; providing requirements for the permitting of wells; and providing contingent effective date." Governor Martz has signed this bill.

If you are interested in learning more details about a particular bill, such as sponsor(s) and language, get online at www.state.mt.us or call 1-800-962-1729.



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MONTANA DEPARTMENT OF NATURAL RESOURCES AND CONSERVATION WATER RESOURCES DIVISION

48 North Last Chance Gulch
P. O. Box 201601
Helena MT, 59620-1601

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